

Cloud Computing: Managing the impact on ICT

Simon Robinson

29 September 2010

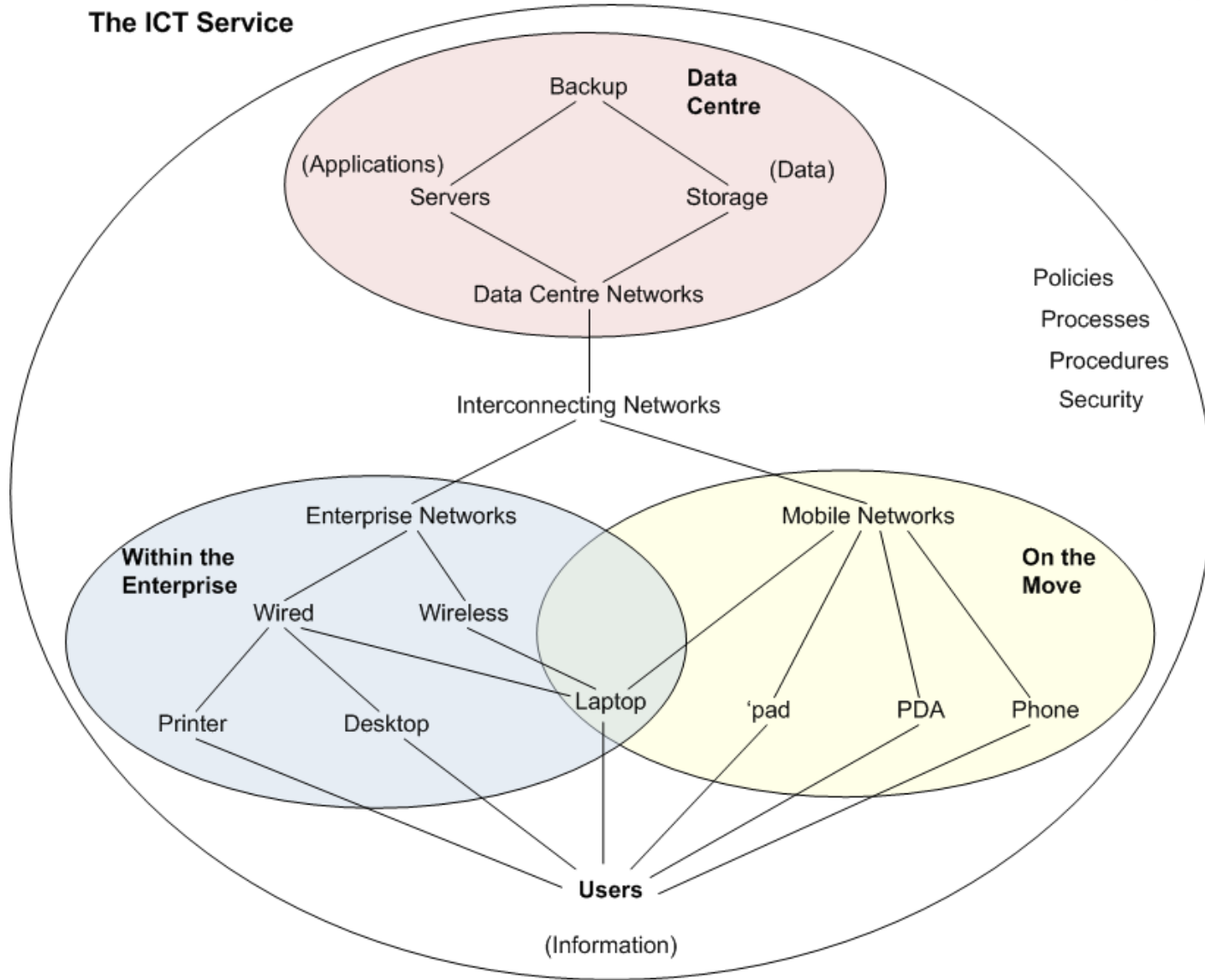


Agenda

- Connecting the cloud to the people
 - Networks
 - Devices
- Delivering an ICT Service
 - Contracts or computers
 - New opportunities
- A couple of Case Studies



The ICT Service



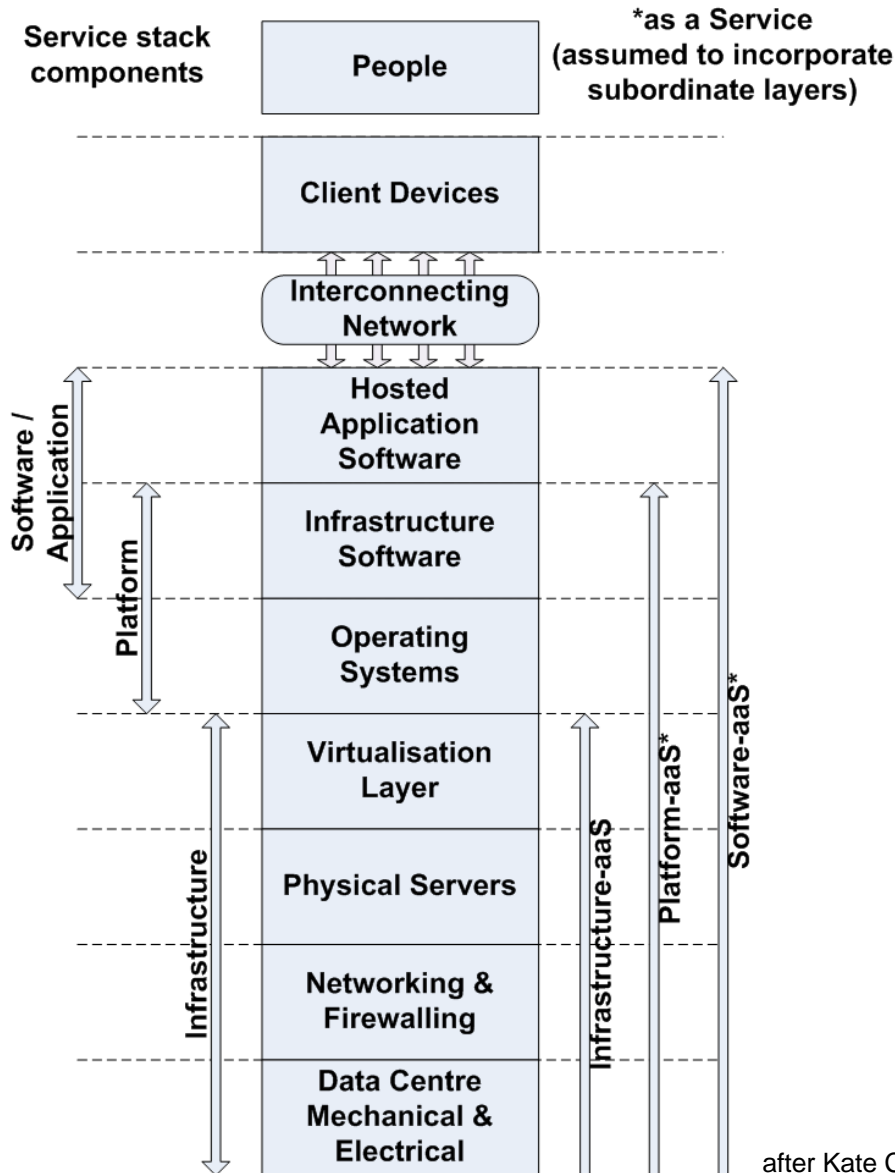
Cloud Computing and ICT

That depends on...

- The type of cloud deployed
- The starting point and the journey
- The scale



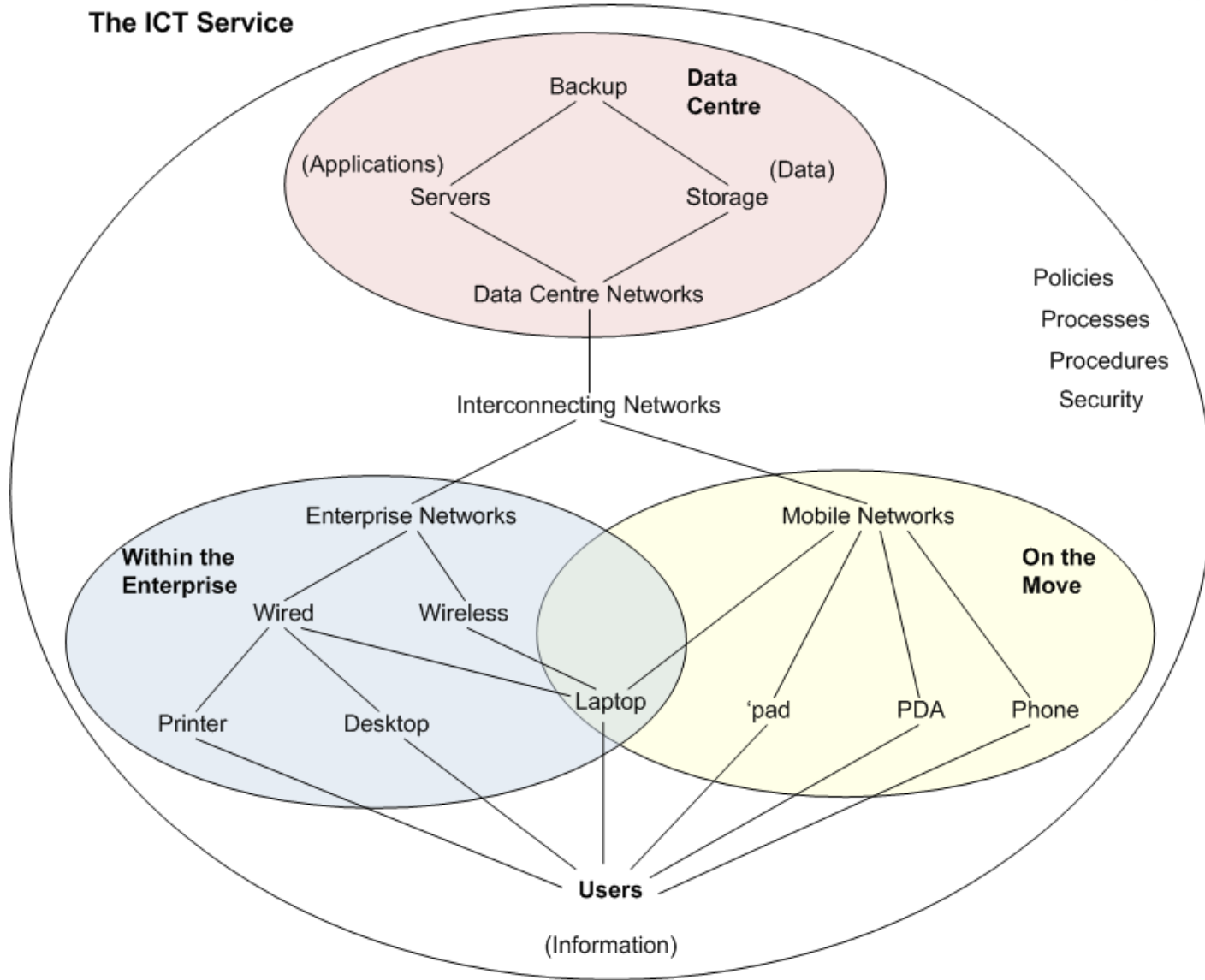
Service Layers Definition



after Kate Craig-Wood

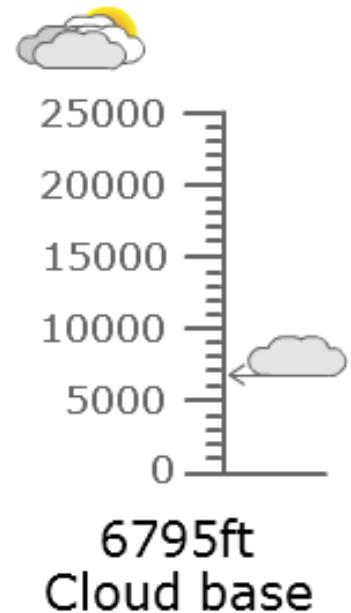


The ICT Service



Reaching the cloud

- IaaS
 - Client devices, Network connectivity, Application software, Infrastructure software, Operating systems
- PaaS
 - Client devices, Network connectivity, Application software
- SaaS
 - Client devices, Network connectivity
- Private cloud
 - All of it



Connecting people and cloud

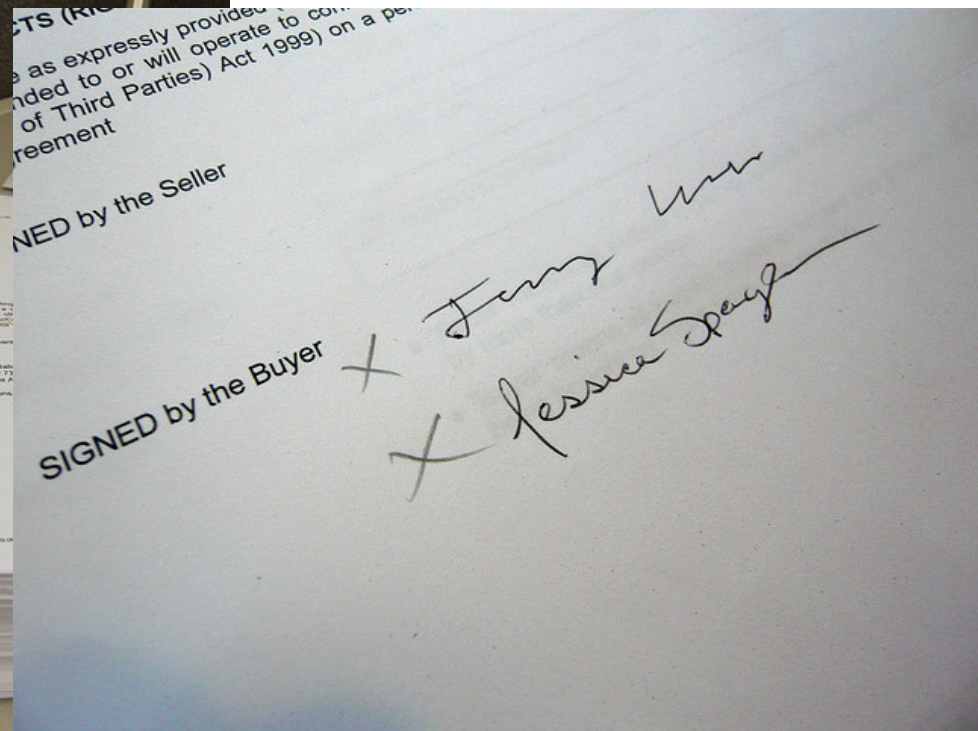
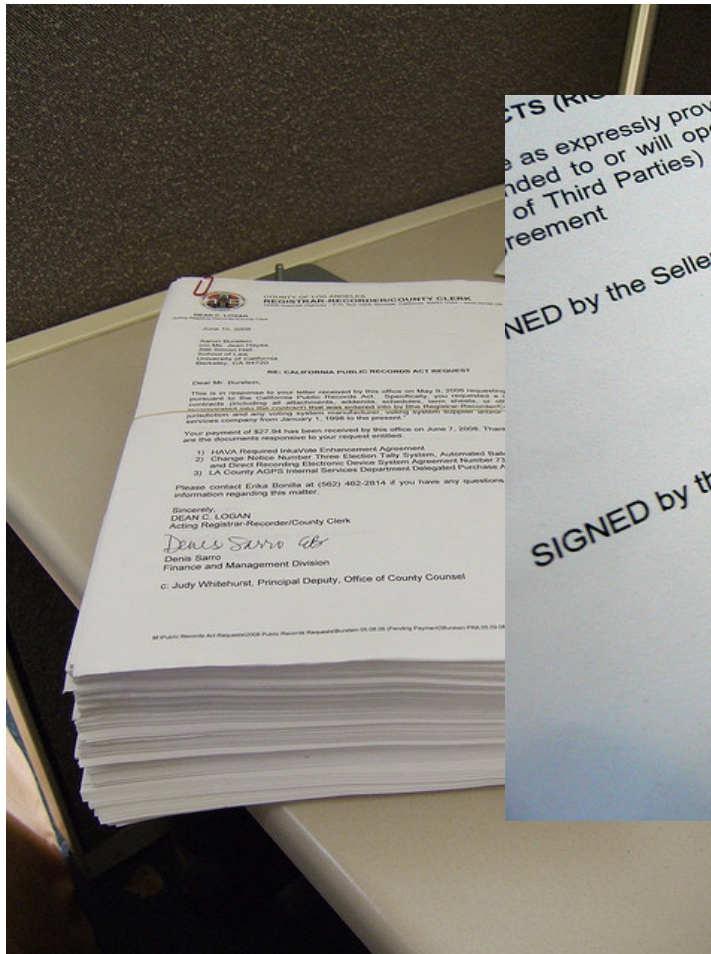
- Network connection issues
- Rural networks:
 - <http://www.thisishullandeastriding.co.uk/news/Carrier-pigeon-beats-rural-broadband-speed-data-experiment/article-2653888-detail/article.html>
 - Affects businesses as well as people
- Network designs:
 - Reliability
 - Resilience
 - Redundancy



Connecting people and cloud



Delivering the ICT Service



Delivering the ICT Service

Incompatible Browser:

Unfortunately the browser you are using does not have a sufficient level of functionality to support this application.

Browser Information:

Browser: Unknown
Version: Mozilla/4.0 (compatible; MSIE
Frames Supported: Yes
Tables Supported: Yes
JavaScript Supported: Yes

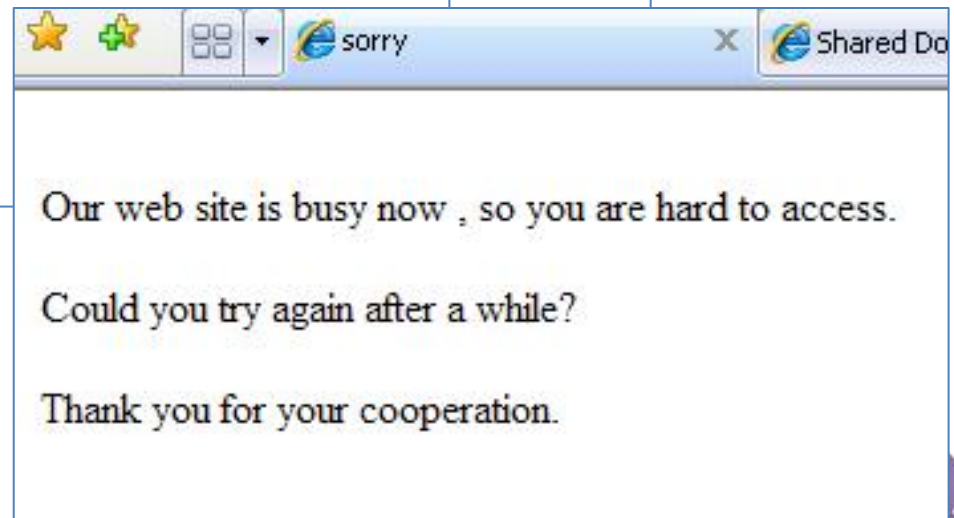
Error 503 Service Unavailable

Service Unavailable

Guru Meditation:

XID: 974421233

[Varnish](#)



Delivering the ICT Service

Incompatible Browser:

Unfortunately the browser you are using does not have a sufficient level of functionality to support this application.

A First Look at Problems in the Cloud

*Theophilus Benson**, *Sambit Sahu†*, *Aditya Akella** and *Anees Shaikh†*
**University of Wisconsin – Madison, †IBM Research*

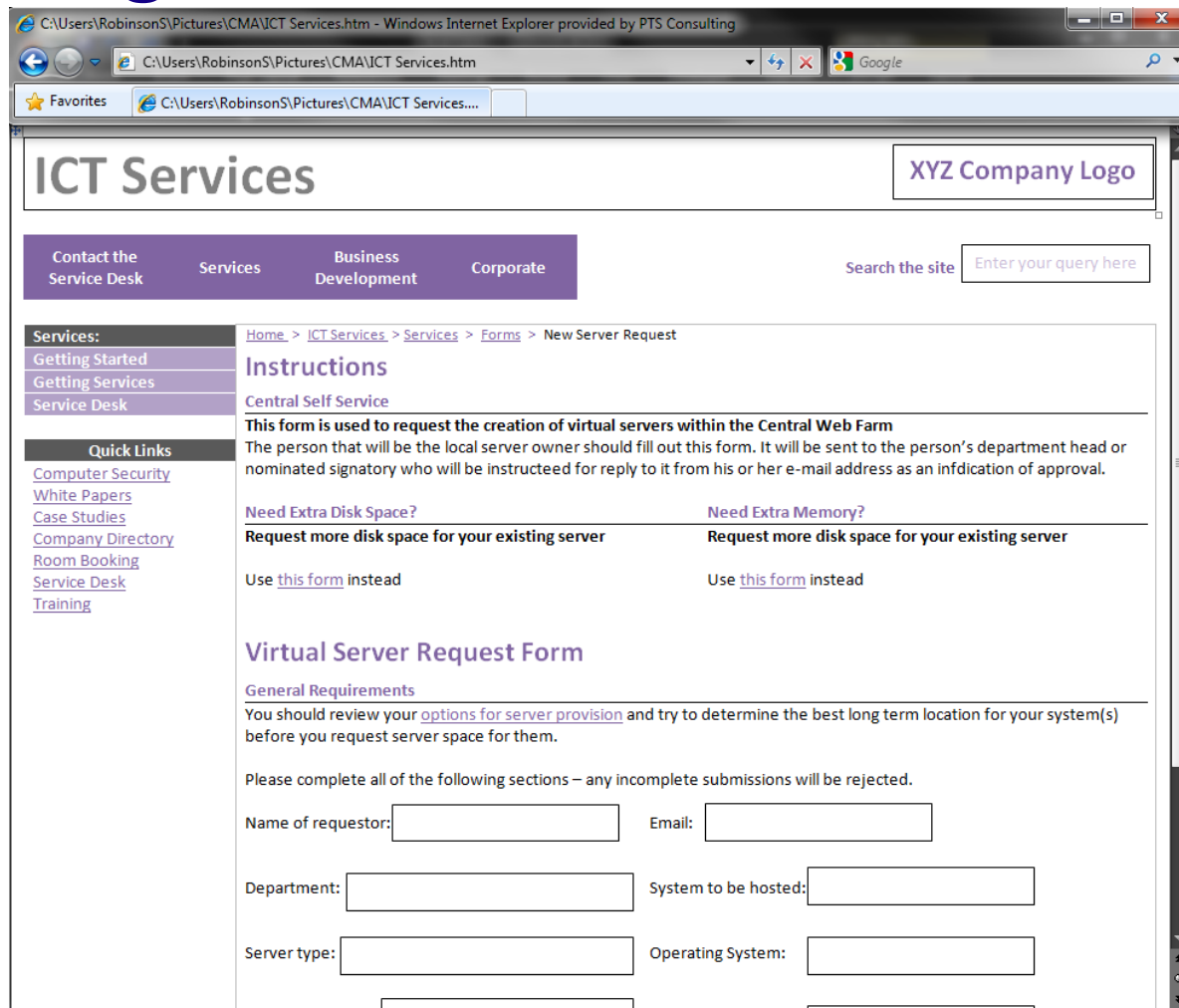
<http://pages.cs.wisc.edu/~tbenson/papers/hotcloud10.pdf>
<http://usenix.org/event/hotcloud10/tech/slides/benson.pdf>

Could you try again after a while?

Thank you for your cooperation.



Delivering the ICT Service



C:\Users\RobinsonS\Pictures\CMA\ICT Services.htm - Windows Internet Explorer provided by PTS Consulting

C:\Users\RobinsonS\Pictures\CMA\ICT Services.htm

XYZ Company Logo

Contact the Service Desk Services Business Development Corporate

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Instructions

Central Self Service

This form is used to request the creation of virtual servers within the Central Web Farm. The person that will be the local server owner should fill out this form. It will be sent to the person's department head or nominated signatory who will be instructed for reply to it from his or her e-mail address as an indication of approval.

Need Extra Disk Space?
Request more disk space for your existing server
Use [this form](#) instead

Need Extra Memory?
Request more disk space for your existing server
Use [this form](#) instead

Virtual Server Request Form

General Requirements

You should review your [options for server provision](#) and try to determine the best long term location for your system(s) before you request server space for them.

Please complete all of the following sections – any incomplete submissions will be rejected.

Name of requestor: Email:

Department: System to be hosted:

Server type: Operating System:



Delivering the ICT Service



Delivering the ICT Service

The ICT department

- Public cloud: ICT becomes a consumer rather than provider
- Partial cloud: can increase service complexity
- “50 – 60% of the IT department’s role was pressing buttons and looking after hardware” – Chris Jones, Remploy
- Re-focus on the service that ICT provides
- Staff reductions?
- Business adoption of cloud computing without ICT?



Case study: The University of Cambridge

Telecommunication services via a public private cloud

- 200 autonomous organisations
- New IP telephone system – 17,000 extensions
- Delivered over the existing data network
- End devices could be chosen by the institution (SIP standard)
- Local networks had to be strengthened
- New approaches to service delivery
 - self service portal
- Telecoms staff now focus on enhancing services



Case study: A Large Financial Institution

The perfect opportunity for developing a private cloud?

- All new
 - Data Centres / Servers / Storage / Network
- Strategy: virtualisation -> private cloud
- From 5000 to 3000 servers (only 4 types)
- From 350+ to 270 applications (business and infrastructure)
- Test labs to prove application migration
- Not all applications could be virtualised
- Processes developed for the migration are now BAU
- New server <1 day rather than >1 month



Simon Robinson Consultant – ICT Strategies

+44(0)161 247 8000

+44(0)7961 565646

simon.robinson@pts-consulting.co.uk

 linkedin: srob1


 twitter: @sr1

 flickr: photos/sr1

PTS Consulting UK | PTS House

50 Liverpool Street | London | EC2M 7PR

T: +44 (0)20 7539 6200 | F: +44 (0)20 7539 6300 | info@pts-consulting.co.uk

Pictures:  Slide 4: Z.Richardson, P.Durkin, Jayneandd, P.Fisher. Slide 5: Geek and Poke. Slide 10: S.Blackley. Slide 11: J.Hall, J.Spengler. Slide 15: D.Boyle

